CLAIMS

Claim 1-32 (cancelled).

Claim 33 (Currently amended): An asphalt surface repair apparatus comprising:

a ~~single~~ vehicle road repair system ~~having a front and a rear portion,~~ that includes ~~on the vehicle~~:

a heating gas source that includes liquid petroleum gas (LPG);

at least one liquid petroleum gas (LPG) heater carried by the vehicle and adapted to be moved towards and away from the surface to be repaired ~~such that the at least one heater being movable to a lowered horizontally disposed position that is substantially approximate to a surface to be repaired~~;

a heater blanket;

~~a hot new asphalt source;~~

~~a rejuvenating liquid source;~~

~~a rejuvenating liquid dispenser;~~ and

~~a sensor for sensing the distance between the at least one heater and the surface to be repaired so that the heating can be controlled by the proximity to the surface to be repaired~~,

wherein liquid petroleum gas is supplied through a vaporizer system to the heater blanket to form an air/gas premix prior to ignition;

wherein the at least one heater is capable of heating to a depth of 10 mm to 100 mm from the surface to be repaired to an average temperature of 50° C to 200° C for from 5 to 20 minutes ~~upon being turned on in less than about five seconds, cooling to an ambient temperature upon being turned off in less than about five seconds, or a combination of both~~;

wherein upon being heated, the surface to be repaired is raked, scarified, or both and the surface is then compacted, and allowed to cool and harden.

Claim 34 (Previously Presented): The apparatus of claim 33, wherein the at least one heater is mounted to the rear portion of the vehicle for pivotal articulation relative to an adjoining structure of the vehicle for moving the at least one heater towards and away from the surface to be repaired.

Claim 35 (Canceled):

Claim 36 (Currently amended): The apparatus of claim [[35]] 33, wherein the heater blanket is made of an electrical resistance steel that includes iron, chromium, [[and]] aluminum, and yttrium.

Claims 37-39 (Canceled):

Claim 40 (Currently amended): The apparatus of claim [[33]] 35, further comprising:

a sensor for sensing the distance between the at least one heater and the surface to be repaired so that the heating can be controlled by the proximity to the surface to be repaired;[[,]]

a controller for controlling an on/off operation of the at least one heater; and

wherein the controller turns on the at least one heater when the sensor senses the at least one heater is approximate to the surface to be repaired; and

wherein the controller turns off the at least one heater when the sensor senses the at least one heater is not approximate to the surface to be repaired.

Claim 41 (Previously Presented): The apparatus of claim 33, further comprising a storage compartment for storing tools and equipment, a compaction roller, or both.

Claims 42-52 (Canceled):

Claim 53 (Previously Presented): The apparatus of claim 33, wherein the at least one heater includes a control system located thereon for independent turning on and turning off of the at least one heater.

Claims 54-58 (Canceled):

Claim 59 (New): The apparatus of claim 33, wherein the surface includes a binder having asphaltenes and that the at least one heater produces an infrared output having a medium

wave output that prevents burning of the surface so that the asphaltenes of the binder are not destroyed.

Claim 60 (New): The apparatus of claim 33, wherein the vehicle includes a rejuvenating liquid source a hot new asphalt source and the rejuvenating liquid source is positioned so that residual heat from the hot new asphalt source is used to maintain the working temperature of the rejuvenating liquid.

Claim 61 (New): The apparatus of claim 33, wherein the vehicle includes a column for suspending the at least one heater therefrom such that the at least one heater is moved towards and away from the surface to be repaired.

Claim 62 (New): The apparatus of claim 36, wherein:

(i) the vehicle includes a hot new asphalt source;

(ii) the vehicle includes a rejuvenating liquid source;

(iii) the vehicle includes a rejuvenating liquid dispenser;

(iv) the vehicle includes a controller for controlling an on/off operation of the at least one heater;

(v) the apparatus further comprises a storage compartment for storing tools and equipment and a compaction roller; and

(vi) the at least one heater includes a control system located thereon for independent turning on and turning off of the at least one heater.

Claim 63 (New): The apparatus of claim 62, wherein the rejuvenating liquid source is positioned so that residual heat from the hot new asphalt source is used to maintain the working temperature of the rejuvenating liquid.

Claim 64 (New): The apparatus of claim 62, wherein the vehicle includes a column for suspending the at least one heater therefrom such that the at least one heater is moved towards and away from the surface to be repaired.

Claim 65 (New): The apparatus of claim 62, wherein the surface includes a binder having asphaltenes and that the at least one heater produces an infrared output having a medium wave output that prevents burning of the surface so that the asphaltenes of the binder are not destroyed.

Claim 66 (New): A process for repairing an asphalt surface comprising the steps of:

a. heating the surface to be repaired using one or more liquid petroleum gas LPG powered infrared heaters adapted to be moved towards and away from the surface to be repaired, the heating being to a depth of 10 mm to 100 mm from the surface to be repaired, wherein the average heating temperature is from 50 to 200°C, and the heating is for from 5 to 20 minutes,
b. breaking up the heated surface to be repaired by raking, scarifying, or both;
c. compacting the surface to be repaired; and
d. cooling the surface to be repaired to harden.

Claim 67 (New): The process of claim 66, wherein a rejuvenating liquid is applied to the broken-up area.

Claim 68 (New): The process of claim 67, wherein the surface is allowed to cool and harden for at least one hour.

Claim 69 (New): The process of claim 66, further comprising the step of applying precoated chippings on hot rolled asphalt and compacting into the surface to give road texture.

Claim 70 (New): The process of claim 69, further comprising the step of applying a topcoat of a sealer/binder to the surface to be repaired.

Claim 71 (New): The process of claim 66, wherein the one or more infrared heaters includes a heater blanket, the heater blanket is made of an electrical resistance steel that includes iron, chromium, aluminum, and yttrium.

Claim 72 (New): The process of claim 69, further comprising the steps of applying a dusting of fine aggregate to the surface to be repaired to provide initial skid resistance upon the surface to be repaired.